

Recovery Plan Action Status

Plan Name: Oregon Chub (*Oregonichthys crameri*) Recovery Plan

Plan Status: Final

Plan Date: 03-Sep-98

Lead Agency: USFWS

Lead Office: Oregon Fish And Wildlife Office

**(503)
231-6179)**

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Oregon chub (<i>Oregonichthys crameri</i>)	1	1.1.1	Develop agreement with the City of Salem to protect chub habitat.	Ongoing Current	FY 1995 - FY 1999		City of Salem, Oregon, U.S. Fish and Wildlife Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	HCP in preparation, 90% complete (USFWS-OSO and City of Salem)
Oregon chub (<i>Oregonichthys crameri</i>)	2	1.1.2	Pursue agreements with USFS and private logging companies to reduce water quality impacts from logging to Geren Island.	Discontinued	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, U.S. Forest Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented; not high priority; north channel not being used to bring water into the plant; site not opened to river; not necessary at this point (ODFW 10/04).
Oregon chub (<i>Oregonichthys crameri</i>)	2	1.10.1	Control bullfrogs at Dunn Wetland.	Discontinued	FY 1995 - FY 1999		Oregon Department of Fish and Wildlife	Management: Predator and Competitor Control	Internal Field Assistance, Internal Technical Assistance, Species Expert	Results of a bullfrog diet showed bullfrogs to have little effect on Oregon chub populations; this task is not necessary (ODFW 10/04).
Oregon chub (<i>Oregonichthys crameri</i>)	2	1.10.2	Manage buffer zone around Dunn Wetland.	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	U.S. Fish and Wildlife Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task fully implemented (ODFW, Dunn)
Oregon chub (<i>Oregonichthys crameri</i>)	2	1.11.1	Create buffer zone around Camas Swale.	Discontinued			U.S. Fish and Wildlife Service, Natural Resources Conservation Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented; habitat extremely degraded; many exotics present; no Oregon chub found here since 1994.
Oregon chub (<i>Oregonichthys crameri</i>)	2	1.11.2	Enhance habitat in Camas Swale.	Discontinued			U.S. Fish and Wildlife Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented; habitat extremely degraded; many exotics present; no Oregon chub found here since 1994.

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Oregon chub (Oregonichthys crameri)	2	1.11.3	Pursue herbicide/pesticide spray restrictions on property adjacent to Camas Swale.	Discontinued			U.S. Fish and Wildlife Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented; habitat extremely degraded; many exotics present; no Oregon chub found here since 1994.
Oregon chub (Oregonichthys crameri)	2	1.12.1	Pursue agreements with ODF and private logging companies to reduce water quality impacts from logging on East Fork Minnow Pond.	Not Started			U.S. Fish and Wildlife Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet; cutting at high level in 1994-95, then wet winters; siltation has occurred; discuss with ODF.
Oregon chub (Oregonichthys crameri)	2	1.12.2	Pursue herbicide/pesticide spray restrictions on property adjacent to East Fork Minnow Pond.	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	Oregon Department of Transportation	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task fully implemented (ODOT).
Oregon chub (Oregonichthys crameri)	2	1.12.3	Construct barriers between habitat and highway at East Fork Minnow Pond.	Complete	FY 1995 - FY 1999	FY 2010	Oregon Department of Transportation	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task fully implemented (ODOT).
Oregon chub (Oregonichthys crameri)	2	1.12.4	Monitor effects of public access on Oregon Chub at East Fork Minnow Pond.	Not Started			Oregon Department of Fish and Wildlife	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet-this task may be more appropriately allocated to ODOT (ODFW).
Oregon chub (Oregonichthys crameri)	2	1.12.5	Protect the beaver dam which controls water levels at East Fork Minnow Pond.	Ongoing Current	FY 1995 - FY 1999		Oregon Department of Fish and Wildlife, Oregon Department of Transportation	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Discussions in progress with ODOT (Sept. 2004).
Oregon chub (Oregonichthys crameri)	2	1.13.1	Pursue herbicide/pesticide spray restrictions from adjacent National Forest lands near Shady Dell Pond.	Not Started			U.S. Forest Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet.
Oregon chub (Oregonichthys crameri)	2	1.13.2	Maintain herbicide/pesticide spray restrictions negotiated with ODOT for rights-of-way near Shady Dell Pond.	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	Oregon Department of Transportation	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task fully implemented (ODOT).

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Oregon chub (Oregonichthys crameri)	2	1.13.3	Address impacts from campground at Shady Dell Pond.	Ongoing Current	FY 1995 - FY 1999		U.S. Forest Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	In progress, 50% complete (USFS).
Oregon chub (Oregonichthys crameri)	2	1.13.4	Coordinate with ODOT to install curb to direct runoff away from Shady Dell Pond.	Ongoing Current	FY 2000 - FY 2004		Oregon Department of Transportation, U.S. Forest Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	In progress, 50% complete (USFS, ODOT).
Oregon chub (Oregonichthys crameri)	2	1.13.5	Evaluate and build guard rail at Shady Dell Pond.	Complete	FY 2000 - FY 2004	FY 2000 - FY 2004	Oregon Department of Transportation, U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task fully implemented (USFS, ODOT).
Oregon chub (Oregonichthys crameri)	2	1.14.1	Construct barrier to non-native fish/water control structure at Elijah Bristow State Park.	Complete	FY 2000 - FY 2004	FY 2000 - FY 2004	Oregon Department of Parks and Recreation	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task fully implemented (OPRD)
Oregon chub (Oregonichthys crameri)	2	1.14.2	Monitor impacts of public use at Elijah Bristow State Park.	Not Started			Oregon Department of Parks and Recreation	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet.
Oregon chub (Oregonichthys crameri)	2	1.14.3	Create and maintain vegetation barrier around chub habitat at Elijah Bristow State Park.	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	Oregon Department of Parks and Recreation	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task fully implemented (OPRD).
Oregon chub (Oregonichthys crameri)	2	1.14.4	Control herbicide and pesticide application near chub habitat at Elijah Bristow State Park.	Complete	FY 1995 - FY 1999	FY 1995 - FY 1999	Oregon Department of Parks and Recreation	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task fully implemented (OPRD).
Oregon chub (Oregonichthys crameri)	2	1.14.5	Outreach and signage at Elijah Bristow State Park.	Ongoing Not Current	FY 1995 - FY 1999		Oregon Department of Parks and Recreation	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Investigations funding opportunities for interpretative materials.
Oregon chub (Oregonichthys crameri)	2	1.15.1	Maintain and enhance downstream rock barrier at Hospital Pond.	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	U.S. Army Corps of Engineers	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task fully implemented (COE).
Oregon chub (Oregonichthys crameri)	2	1.15.2	Build barriers to direct road runoff away from Hospital Pond.	Not Started			U.S. Army Corps of Engineers	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet.

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Oregon chub (Oregonichthys crameri)	2	1.15.3	Monitor the effects of public access at Hospital Pond.	Not Started			U.S. Army Corps of Engineers	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet. New gate structure addresses some of these issues (no dewatering capability).
Oregon chub (Oregonichthys crameri)	2	1.16.1	Build fish barrier at Dexter Reservoir Alcoves.	Discontinued	FY 1995 - FY 1999		U.S. Army Corps of Engineers	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Screening has been determined to be unnecessary.
Oregon chub (Oregonichthys crameri)	2	1.16.2	Pursue herbicide/pesticide spray restrictions on property adjacent to Dexter Reservoir Alcoves.	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	U.S. Army Corps of Engineers	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task fully implemented (ACOE).
Oregon chub (Oregonichthys crameri)	2	1.16.3	Construct barriers to control runoff between Oregon chub habitat and highway 58 at Dexter Reservoir Alcoves.	Not Started			U.S. Army Corps of Engineers	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet.
Oregon chub (Oregonichthys crameri)	2	1.16.4	Maintain water levels in Dexter Reservoir to prevent dewatering in Dexter Reservoir Alcoves.	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Ongoing. In 2010, USACE removed sediment in one alcove to help maintain water levels. Reservoir levels were restricted due to spill gate repairs but are currently back at normal levels.
Oregon chub (Oregonichthys crameri)	2	1.16.5	Pursue agreements with private logging companies to reduce water quality impacts from logging on Dexter Reservoir Alcoves.	Not Started			U.S. Fish and Wildlife Service, U.S. Forest Service, U.S. Army Corps of Engineers	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet; discuss with ODF.
Oregon chub (Oregonichthys crameri)	2	1.16.6	Monitor effects of public access at Dexter Reservoir Alcoves.	Not Started			U.S. Army Corps of Engineers	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet. Visual observations made daily.
Oregon chub (Oregonichthys crameri)	2	1.17.1	Create buffer zone around Oregon chub habitat at Rattlesnake Creek.	Ongoing Current	FY 1995 - FY 1999		Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	In progress, 50% complete (ODFW).

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Oregon chub (Oregonichthys crameri)	2	1.17.2	Enhance habitat in Rattlesnake Creek.	Not Started			Oregon Department of Fish and Wildlife	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet.
Oregon chub (Oregonichthys crameri)	2	1.17.3	Pursue herbicide/pesticide spray restrictions on property adjacent to Rattlesnake Creek.	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	In progress, 50% complete (ODFW).
Oregon chub (Oregonichthys crameri)	2	1.18.1	Monitor effects of sewage treatment plant on water quality at Oakridge Slough.	Discontinued	FY 1995 - FY 1999		U.S. Forest Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Chub have not been found at this site since 2004. OFWO Environmental Contaminants staff found elevated levels of nutrients at the site in 2003 that could cause algal blooms limiting available habitat .
Oregon chub (Oregonichthys crameri)	2	1.19.1	Construct water control structure to maintain water levels in Jasper Park Slough.	Not Started			Oregon Department of Fish and Wildlife	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet. This task may be more appropriately allocated to OPRD. Chub have not been collected at this site since 1994. Low priority (ODFW).
Oregon chub (Oregonichthys crameri)	2	1.19.2	Monitor effects of public access at Jasper Park Slough.	Not Started			Oregon Department of Fish and Wildlife	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet.
Oregon chub (Oregonichthys crameri)	2	1.2.1	Acquire buffer zone habitat around Santiam Conservation Easement.	Not Started			Western Oregon National Wildlife Refuge Complex	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet. Status unchanged. The property is not within an approved refuge boundary and as such cannot be acquired by FWS (FWS-Finley NWR).

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Oregon chub (Oregonichthys crameri)	2	1.2.2	Control pesticide/herbicide inputs from land adjacent to Santiam Conservation Easement.	Not Started			Western Oregon National Wildlife Refuge Complex	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	FWS has no control over chemical usage on lands adjacent to the Easement. Landowner is not willing to cooperate. This task is low priority (USFWS-Finley NWR).
Oregon chub (Oregonichthys crameri)	2	1.20.1	Negotiate riparian management agreement at Buckhead Creek.	Not Started			Southern Pacific Railroad, Bonneville Power Administration, U.S. Forest Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet.
Oregon chub (Oregonichthys crameri)	2	1.20.2	Negotiate no-spray agreement around Oregon chub habitat at Buckhead Creek.	Not Started			Southern Pacific Railroad, Bonneville Power Administration, U.S. Forest Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet.
Oregon chub (Oregonichthys crameri)	2	1.20.3	Create new habitat for Oregon chub at Buckhead Creek.	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task fully implemented (USFS).
Oregon chub (Oregonichthys crameri)	2	1.21.1	Maintain barrier to non-native fish at East Ferrin Pond.	Complete	FY 1995 - FY 1999	FY 1995 - FY 1999	U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task fully implemented (USFS)
Oregon chub (Oregonichthys crameri)	2	1.21.2	Manage water levels at East Ferrin Pond.	Complete	FY 1995 - FY 1999	FY 1995 - FY 1999	U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task fully implemented (USFS).
Oregon chub (Oregonichthys crameri)	2	1.22.1	Maintain water levels in Wicopee Pond.	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task fully implemented (USFS)
Oregon chub (Oregonichthys crameri)	2	1.23.1	Reduce threat of introduction by non-native fish at Fall Creek Spillway Pond.	Ongoing Current	FY 1995 - FY 1999		U.S. Army Corps of Engineers	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	In progress, 25% complete (ACOE)-ACOE has posted some signs at this location.

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Oregon chub (Oregonichthys crameri)	2	1.23.2	Control bullfrogs at Fall Creek Spillway Pond.	Discontinued	FY 1995 - FY 1999		U.S. Army Corps of Engineers	Management: General	Internal Field Assistance, Internal Technical Assistance, Species Expert	Results of a bullfrog diet study showed bullfrogs to have little effect on Oregon chub populations; this task is not necessary (ODFW 10/04).
Oregon chub (Oregonichthys crameri)	3	1.24.1	Pursue herbicide/pesticide spray restrictions on property adjacent to Wallace Slough.	Not Started			U.S. Fish and Wildlife Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented; many exotics present; no Oregon chub found since 1997.
Oregon chub (Oregonichthys crameri)	2	1.3.1	Maintain/expand riparian buffer zones around Green's Bridge Backwater.	Ongoing Current	FY 2000 - FY 2004		Oregon Department of Fish and Wildlife	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task 50% complete. No further work necessary at this site; habitat is in adequate shape. ODFW has limited leverage to fully implement this task? Land is privately owned (ODFW).
Oregon chub (Oregonichthys crameri)	2	1.4.1	Maintain/expand riparian buffer zones around Santiam I-5 Backwater.	Ongoing Current	FY 2000 - FY 2004		Oregon Department of Transportation	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	In progress, 75% complete (ODOT). The riparian zone currently appears to be healthy and functioning (ODFW 3/11/04).
Oregon chub (Oregonichthys crameri)	2	1.4.2	Create or enhance habitat adjacent to existing Santiam I-5 Backwater site.	Not Started			Oregon Department of Transportation	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	ODOT and USFWS-OSO are currently discussing management of this site as a conservation bank. Habitat improvement may be involved.
Oregon chub (Oregonichthys crameri)	2	1.5.1	Maintain/expand riparian buffer zones around Oregon chub habitat at Pioneer Park Backwater.	Ongoing Current	FY 2000 - FY 2004		City of Stayton, Oregon, U.S. Fish and Wildlife Service	Management: Habitat Maintenance and Manipulation	Internal Administrative, Internal Field Assistance, Internal Technical Assistance	This site is undergoing habitat enhancement as part of a mitigation project for other fish (salmonid) passage work done in 2003 (ODFW, USFWS-OSO 10/04).

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Oregon chub (Oregonichthys crameri)	2	1.6.1	Enlarge/enhance habitat area at Gray Slough.	Not Started			U.S. Fish and Wildlife Service	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented; private property; land is for sale and landowner has denied ODFW access to site for annual surveys.
Oregon chub (Oregonichthys crameri)	2	1.6.2	Construct water control structure to maintain water levels in Oregon chub habitat at Gray Slough.	Not Started			U.S. Fish and Wildlife Service	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Water levels appear to be holding well at this time; habitat structure deemed to be ok; new structures not necessary (ODFW 10/04).

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Oregon chub (Oregonichthys crameri)	2	1.7.1	Restore, enhance and secure wetland habitat for transplant populations at Finley NWR.	Ongoing Current	FY 1995 - FY 1999		Western Oregon National Wildlife Refuge Complex	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task in progress (percentage complete undetermined). The plan does not specify how many habitats/sub-populations are to be established to meet this objective. Due to population declines (Gray Creek Swamp and Display Pond) and lack of recruitment (Display Pond), it may be too soon to say that we have reduced the risk that a single, catastrophic event could cause the extirpation of the local population. However, much progress has been made to create, restore, and enhance habitat for Oregon Chub on Finley NWR. These projects include introducing chub to Display Pond in 1998, the creation of Cheadle Barn Pond (chub introduced in 2002), restoration and enhancement of Beaver Pond for future chub introduction (work completed in 2003), and creation of the Field 16 wetland (potential future chub site pending results of ongoing monitoring) (USFWS-Finley NWR 11/03). No chub were found in Cheadle Pond in 2011, we are continuing to investigate potential causes for the decline.

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										Ongoing monitoring (habitat and water quality, non-native fish presence/absence) being conducted by ODFW. Potential sites include Beaver Pond and Field 15/16 Ponds (USFWS-Finley NWR 11/04).
Oregon chub (Oregonichthys crameri)	2	1.7.2	Construct barriers to non-native fish at Finley NWR.	Not Started			Western Oregon National Wildlife Refuge Complex	Management: Habitat Maintenance and Manipulation	Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet. This task pertains to Cattail Pond. To date, no solution has been identified to prevent non-native fish from entering this pond (USFWS-Finley NWR).
Oregon chub (Oregonichthys crameri)	2	1.7.3	Acquire land or easements to reduce impacts of logging in the watershed of Finley NWR.	Not Started			Western Oregon National Wildlife Refuge Complex	Acquisition: General	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task has not been implemented. None of this property can be acquired by USFWS as it does not lie within an approved refuge acquisition boundary (USFWS-Finley NWR).

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Oregon chub (Oregonichthys crameri)	2	1.7.4	Control herbicide/pesticide application adjacent to Finley NWR.	Ongoing Current	FY 1995 - FY 1999		Western Oregon National Wildlife Refuge Complex	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Task in progress (percentage complete undetermined). We have monitored forest practices (both mechanical and chemical treatments) in commercial timberland upstream of the refuge and documented (internal memorandum) treatments/projects that may be detrimental to Oregon chub populations in the Gray Creek watershed. All project monitoring has been conducted in cooperation with the Oregon Department of Forestry (per the Oregon Forest Practices Act) and has lead to our ability to document potentially harmful forest management practices as they pertain to Gray Creek. It is worth noting that Oregon Forest Practices Act has only limited regulatory guidelines for protecting small streams. For instance, Riparian Management Areas (RMA) on Small Type F streams within the Oregon Coast Range (this classification pertains to the upper reaches of Gray Creek and its tributaries) require a RMA of 50' on either side of the creek. However, limited harvesting

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										and removal of down wood may occur between 20' to 50' of the creek as long as minimal basal area retention targets are met, which in the case of Small Type F streams in the Coast Range, is 30 square feet per 1,000' of stream length (USFWS-Finley NWR).
Oregon chub (Oregonichthys crameri)	2	1.8.1	Buffer habitat from agricultural runoff from land adjacent to Camous Creek.	Not Started			U.S. Fish and Wildlife Service, Natural Resources Conservation Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet; private land, access denied.
Oregon chub (Oregonichthys crameri)	2	1.8.2	Enhance habitat in Camous Creek.	Not Started			Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet; private land, access denied.
Oregon chub (Oregonichthys crameri)	2	1.8.3	Pursue herbicide/pesticide spray restrictions on adjacent property at Camous Creek.	Not Started			U.S. Fish and Wildlife Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet; private land, access denied.
Oregon chub (Oregonichthys crameri)	2	1.9.1	Create buffer zone around Oregon chub habitat at Dry Muddy Creek.	Not Started			U.S. Fish and Wildlife Service, Natural Resources Conservation Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet; private land, access denied.
Oregon chub (Oregonichthys crameri)	2	1.9.2	Enhance habitat in Dry Muddy Creek.	Not Started			Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet; private land, access denied.
Oregon chub (Oregonichthys crameri)	2	1.9.3	Pursue herbicide/pesticide spray restrictions on property adjacent to Dry Muddy Creek.	Not Started			U.S. Fish and Wildlife Service	Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert	Not implemented yet; private land, access denied.
Oregon chub (Oregonichthys crameri)	2	2.1	Continue surveys to identify potential reintroduction sites.	Ongoing Current	FY 1995 - FY 1999		Oregon Department of Fish and Wildlife	Research: Reintroduction	Contract, Graduate Student, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	Ongoing (ODFW, USFWS-Refuges).

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Oregon chub (Oregonichthys crameri)	2	2.2	Develop and rank list of reintroduction sites.	Ongoing Current	FY 1995 - FY 1999		Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service	Management: Other	Internal Field Assistance, Internal Technical Assistance, Species Expert	Ongoing (ODFW).
Oregon chub (Oregonichthys crameri)	2	2.3	Plan and carry out reintroductions.	Ongoing Current	FY 1995 - FY 1999		Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service	Management: Reintroduction	Graduate Student, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	Ongoing (ODFW).
Oregon chub (Oregonichthys crameri)	2	2.4	Monitor and manage reintroduced populations.	Ongoing Current	FY 1995 - FY 1999		Oregon Department of Fish and Wildlife	Management: Reintroduction	Graduate Student, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	Ongoing (ODFW).
Oregon chub (Oregonichthys crameri)	2	3.1	Monitor spawning and juveniles in lab to better understand breeding biology.	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	Oregon Department of Fish and Wildlife	Research: General	Graduate Student, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	Task fully implemented in 1998. (ODFW) See "Oregon Chub Research (2000): Middle Fork Willamette and Santiam River Drainages" report for results.
Oregon chub (Oregonichthys crameri)	3	3.2	Validate age structure and determine length-at-age relationships.	Complete	FY 1995 - FY 1999	FY 1995 - FY 1999	Oregon Department of Fish and Wildlife	Research: Demographic Studies	Graduate Student, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	Research project complete (ODFW).
Oregon chub (Oregonichthys crameri)	2	3.3	Monitor water quality and composition parameters at population sites.	Ongoing Current	FY 1995 - FY 1999		Oregon Department of Fish and Wildlife	Research: Habitat Status	Graduate Student, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	Ongoing (ODFW).
Oregon chub (Oregonichthys crameri)	2	3.4	Estimate abundance at existing and reintroduction sites.	Ongoing Current	FY 1995 - FY 1999		Oregon Department of Fish and Wildlife	Research: Population Surveys	Graduate Student, Internal Administrative, Internal Field Assistance	Ongoing (ODFW)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Oregon chub (Oregonichthys crameri)	3	3.5	Determine bullfrog diet at Oregon Chub population sites.	Complete	FY 1995 - FY 1999	FY 2000 - FY 2004	Oregon Department of Fish and Wildlife	Research: Predation	Graduate Student, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	Research project complete (ODFW)
Oregon chub (Oregonichthys crameri)	3	3.6	Investigate interactions with mosquitofish.	Ongoing Current	FY 1995 - FY 1999		Oregon Department of Fish and Wildlife	Research: Predation	Graduate Student, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	Research project ongoing, 50% complete (ODFW).
Oregon chub (Oregonichthys crameri)	3	3.7	Investigate non-native fish control strategies.	Ongoing Current	FY 2007		Oregon Department of Fish and Wildlife	Research: Predation	Contract	ODFW is conducting research on interactions with non-native fishes in the Willamette Basin.
Oregon chub (Oregonichthys crameri)	3	4.1	Prepare and publish articles in appropriate popular literature.	Ongoing Current	FY 1995 - FY 1999		Oregon Department of Fish and Wildlife	Research	Graduate Student, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	Ongoing; informational pamphlet published jointly with USFS/USFWS/AC OE/ODFW; book marks printed (USFWS), 2 journal articles published (ODFW).
Oregon chub (Oregonichthys crameri)	3	4.2.1	Develop interpretive displays.	Ongoing Current	FY 1995 - FY 1999		Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Western Oregon National Wildlife Refuge Complex, U.S. Forest Service, U.S. Army Corps of Engineers	Other: Information and Education	Contract, Graduate Student, Internal Administrative, Internal Field Assistance, Internal Technical Assistance, Species Expert	In progress, 10% complete (ODFW).